

DIGITAL RECORDERS - A WORLD WITHOUT CHARTS

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Murray and Trettel, Incorporated, Certified Consulting Meteorologists, has started replacing strip chart recorders with digital recorders at some client sites. These recorders have the capability of collecting and storing 10 second data from all parameters (wind speed, wind direction, ambient temperature, dew point and differential temperature at different tower elevations) for an extended period which can be downloaded to in-house computer via phone lines. The recorders came with software to display the data in graphical and digital formats at the site and at Murray and Trettel's offices using remote access software.

The digital recorders are capable of sampling every 0.5 seconds, however 10 seconds was selected partly due to file size considerations. Murray and Trettel ran a comparison between analog paper chart traces and simulated analog traces derived from digital 10 second data. It appears that there is not a significant loss of detail when using data sampled every 10 seconds.

Once downloaded, the data file can be reviewed in a manner similar to strip charts to enable locating the same kinds of problems that can be found on strip charts, such as icing, bearing problems, etc. In addition, Murray and Trettel has developed a set of in-house programs to read the binary data files and create a independent hourly data base from the 10 second data. These data are then compared to the hourly data from the primary onsite data logger to assure that the data are equivalent.

During tests last November and December, and since the first digital recorder was installed in early June, these loggers have demonstrated that they not only effectively replace the strip chart recorders, but that they provide additional data and capability, both at Murray and Trettel and at the site, that was never before possible.

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